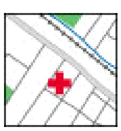
CHAPTER 6

Working With Other CAMEO Components

In this chapter, you'll find descriptions of the Special Locations, Contacts, Resources, Routes, and Incidents modules, and explanations of how you can use the ALOHA and MARPLOT programs along with CAMEO's modules.

Working with other CAMEO modules

Special Locations



Use the Special Locations module to keep track of the locations of high-density, confined, or sensitive populations that might need special attention during an emergency (e.g., schools, nursing homes, hospitals, medical clinics, and community locations where people congregate). Create a Special Locations record describing each special location in your area of jurisdiction or concern. If you have a map of your area, you also can link each Special Locations record to a symbol marking its location on the map.

Adding and editing special location records. To create a new record,

1. Open the Special Locations module.
2. Select New Special Location from the Record menu. A new, blank record will be created.
3. Fill out the new Special Locations record. Check Table 1 for explanations of all the items.

   To add phone numbers or information about contact people, follow the steps in "Adding contact information for special locations" on page 158.
4. Click Save Changes to save your new record.

To edit an existing Special Locations record, click the Edit button in the toolbar (see "Editing records" on page 29).

Mapping a special location. To link your new record to a symbol on a MARPLOT map, follow the steps in "Linking map objects to CAMEO records" on page 183.

TABLE 1. Items in Special Locations records.

Item	Description
Location Name	Name of the special location.
Location Type	Editable menu of special location types (e.g., "Elementary School").
Building Type	Editable menu of building types (e.g., Single Family, Tower).
Under the Address tab:	
Street Address	Street address for this special location, as well as the county (or borough or parish), fire district, and country where it's located.
Mailing Address	Mailing address for this special location
Email	Email address for this special location.

TABLE 1. Items in Special Locations records. (Continued)

Item	Description
Under the Population tab:	
Hours of Operation	Time periods during the day when people are present at this location (e.g., “8:00 am - 5:00 pm”).
Peak Season	Season of the year when the largest number of people are present at this location (e.g., “School Year” for an elementary school; “Summer” for a resort hotel).
Average Population	Average number of people at this location during its hours of operation on typical days.
Average Age	Average age of the people at this location.
Daily Population, Min/Max	Minimum and maximum number of people at this location during the course of a day.
Seasonal Population, Min/Max	Minimum and maximum number of people at this location during a season. (Minimum is the number present during the slowest season; maximum the number during the peak season.)
Under the Phones tab:	
Type	Type of phone number (e.g., 24-hour, emergency, office). Pull-down menu in Edit mode.
Phone	Phone number.
Under the Contacts tab: Double-click any contact to see the record for that contact.	
Last/First Name	Name(s) of the contact.
Title	Title of the contact.
Organization	Organization represented by the contact.
Under the Map Data tab:	
Latitude/Longitude	Latitude and longitude of the special location, expressed as decimal values.

TABLE 1. Items in Special Locations records. (Continued)

Item	Description
Method for determining latitude and longitude	Code and description of the method by which latitude and longitude were measured.
Description of location identified by latitude and longitude	Code and description of the location for which latitude and longitude were measured.
Record is linked to MARPLOT object	This box is checked if this record is linked to a symbol object on a MARPLOT map (see "Linking map objects to CAMEO records" on page 183).
Under the Notes tab:	
Notes	Keep your own notes about this special location here.

Adding contact information for special locations. You can add contact information for special locations in two ways:

- Including telephone numbers in Special Locations records themselves (e.g., the emergency phone number for a school or hospital). Generally speaking, you should do this if you foresee referring to CAMEO in order to contact special locations during an emergency response, to be able to most quickly access the phone numbers. For an example of how you might use phone numbers in Special Locations records during a response, see "Checking for special locations within a footprint or threat zone" on page 160.
- Adding Contacts records containing contact information for people representing particular special locations (such as a school principal or a facility emergency manager). In Contacts records, you can keep addresses and phone numbers for your contacts as well as notes about each contact, such as notes from meetings or phone conversations. When you add a contact for a special location, you're actually adding a new record to the Contacts module. Information about that contact will also be displayed under that Contacts tab in the related Special Locations record.

To add a phone number to a Special Locations record,

1. Open the record in Record View.
2. Click the Phones tab, then click the Edit button in the toolbar.
3. Click within the first blank table row below the “Type” heading. In the menu of phone number types, click to select a type (e.g., “24-hour,” “emergency”). If you need to add or modify a type, select Edit from the menu.
4. Type the phone number to the right of the menu in the same table row.
5. Click Save Changes.

To add a record for a contact person for a special location,

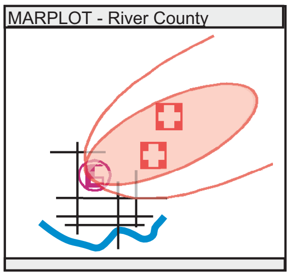
1. Select the Special Locations record for that special location; open the record in Record View.
2. Click the Contacts tab, then click the Edit button in the Toolbar.
3. Click Add Contact. You’ll see a list of all contacts in the Contacts module.
4. Either
   - Click on the name of a contact already in the list, then click Select. You would do this if a person representing the special location is already in your Contacts module (perhaps because they are a contact for more than one special location).

     Note: You can associate the same contact record with more than one special location by repeating steps 1 through 4 for each special location for which this person is a contact.
   - Click Add New to add a new Contacts record. You would do this if the contact is not already in the list. You’ll see a new, blank Contacts record. Fill in the information about the new contact (refer to Table 2 on page 164 for the definitions of the items on a Contacts record), then click Save Changes.

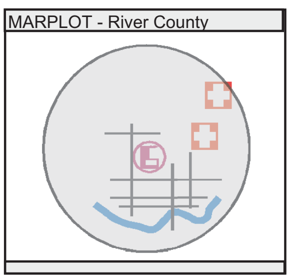
     Note: A new Contacts record that you create by clicking New Contact from a Special Locations record will be associated with that Special Locations record, even if you don’t type the name of the special location or other identifying information about the special location, on the contact record.

Checking for special locations within a footprint or threat zone

Special locations...
...within a footprint:



...within a threat zone:



To find out which special locations could be at risk during a real or planning incident, you can use Special Locations along with MARPLOT and either

- **ALOHA**, during an emergency response to a toxic gas release (or for planning projects). In this case, you would be most concerned about special locations located within ALOHA's footprint (like the ones represented by the hospital symbols at left). The footprint represents the area where gas concentrations are predicted to be high enough to be hazardous (see the discussion of ALOHA in "CAMEO's three components" on page 3).
- **Screening & Scenarios**, when you're planning for emergencies. In this case, you'd be most concerned about special locations located within a threat zone you plotted from Screening & Scenarios (like the hospital symbols at left). A threat zone represents the area that could be affected by an accidental release of a hazardous chemical (for an explanation of threat zones and how they differ from ALOHA footprints, see "Using Screening & Scenarios to assess hazards" on page 137).

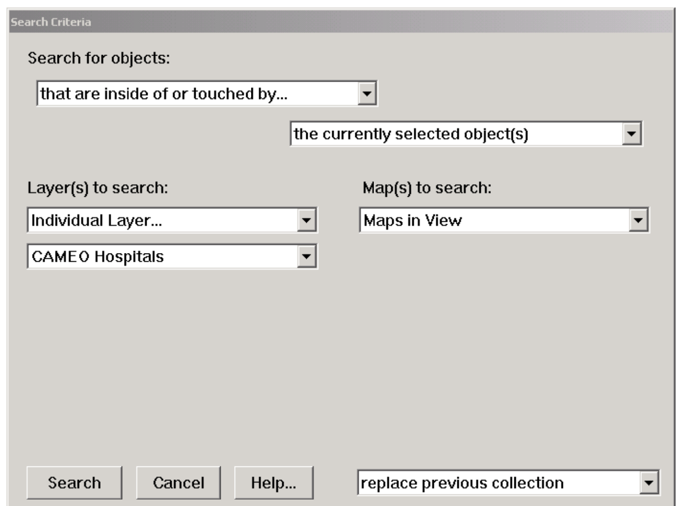
You first need to make the following preparations:

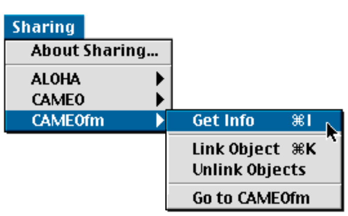
1. Create a Special Locations record for each special location of concern to you. To create a new record, open Special Locations, then select New Special Location from the Record menu; fill in the information about the special location, then click Save Changes to save your new record.
2. In MARPLOT, place a symbol on the CAMEO Map at the location of each of these special locations, then link each special location symbol to the corresponding record. (To create and link symbols, follow the steps in "Linking map objects to CAMEO records" on page 183.)

Once you've made these necessary preparations, then whenever you use ALOHA to create a footprint or Screening & Scenarios to create a threat zone on the map, you can quickly check for the special locations located inside that footprint or threat zone.

Here are the steps:

1. In MARPLOT, click directly on the footprint or threat zone object to select it. Check to be sure that you've selected only that object.
2. From MARPLOT's List menu, select Search.
3. Set up a search for objects that are "inside of or touched by..." "the currently selected object(s)" on the map layer(s) where you have placed your special location symbols, then press Search (check the MARPLOT manual for more on setting up searches; you can download the manual from www.epa.gov/ceppo/cameo/marplot.htm). Below is an example of such a search for hospitals shown on a MARPLOT map.





4. Click Show All on Map. The map will be displayed at a scale that makes all the symbols on the layer that are within the threat zone visible; all the symbols will be selected.
5. From MARPLOT's Sharing menu, select CAMEOfm, then Get Info (as at left).[1] The Special Locations module will be displayed, showing a list

1. If a previous version of CAMEO is still installed on your computer, you will see both "CAMEO" and "CAMEOfm" in MARPLOT's Sharing menu. Always select from the CAMEOfm commands when you're working with the current version of CAMEO. See "When you start from MARPLOT..." on page 182 for instructions for removing the "CAMEO" items from the Sharing menu.

of all the records linked to the selected map objects (if there are multiple records, they're placed in a found set, just as though you had found them by running a search for them). Double-click any record in the list to view that record in Record View.

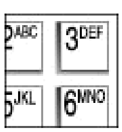
Once you have a set of Special Locations records representing the special locations within a threat zone, you can make and print a report containing the contact phone numbers for those locations:

1. From the File menu in the Special Locations module, select Make Report.
2. Click the Found Set button, so that the report will include information about all the special locations within the threat zone (each is represented by a record in the set of found records).
3. Click the Phones checkbox, as well as any other checkboxes you'd like to include. Clicking Phones includes the phone numbers for all the special locations in the report.
4. Click Make Report, review the report, then click Print.

   You or a dispatcher now can use the report to call the locations to alert them to the emergency.

Note: You can use variations of this method for other planning and response purposes. For example, you could draw a circle on your MARPLOT map to represent the area within hearing range of an emergency siren, then search within it to find those special populations that would be able to hear the siren. In MARPLOT, it also is possible to search for special locations that are outside of the circle (and not able to hear the siren).

Contacts



Use the Contacts module as a directory of people and organizations involved in hazardous materials emergency response and/or planning. You can associate a given Contacts record with the record for a specific facility, special location, incident, or response resource (such as a media outlet or contractor).

Check Table 2 on page 164 to see explanations of the various kinds of information shown on a Contacts record.

Adding and editing Contacts records. When you add a new record to the Contacts module, you can choose whether to associate it with a facility, special location, incident, or response resource. The advantage of associating a Contacts record with a facility, special location, incident, or resource is that you then can use the Show Related command in the Record menu to quickly move between the related records (see "Using the Show Related command" on page 28).

- To add a record for a contact person for a particular **facility**, follow the instructions in "Adding contact information for a facility" on page 136.
- To add a record for a contact person for a particular **special location**, follow the instructions in "Adding contact information for special locations" on page 158.
- To add a record for a contact person for a particular **incident** (either the reporter of the incident or the discharger), follow the instructions in "Adding Reporter/Discharger contact information" on page 172.
- To add a record for a contact person representing a **response resource**, follow the instructions in "Adding and editing Resources records" on page 165.

To add a new contact record not associated with a facility, special location, or other record elsewhere,

1. Open the Contacts module.
2. Choose New Contact from the Record menu. A new, blank record will be created.
3. Fill out the new Contacts record. Refer to Table 2 on page 164 for explanations of all the items.
4. Click Save Changes to save the new record.

To add a phone number to a Contacts record,

1. Open the record in Record View.
2. Click the Phones tab, then click the Edit button in the toolbar.
3. Click within the first blank table row below the "Type" heading. In the menu of phone number types, click to select a type (e.g., "24-hour,"

"emergency"). If you need to add or modify a type, select Edit from the menu.

4. Type the phone number to the right of the menu in the same table row, then click Save Changes.

To edit any Contacts record, open that record, then click the Edit button in the toolbar (see "Editing records" on page 29).

TABLE 2. Items in Contacts records.

Item	Description
First/Last Name	First and last names of the contact person.
Organization	Organization with which contact is affiliated.
Title	The contact's job title or position.
Contact Type	Choose items from one or more of the four identical contact type menus to describe the primary functions of this contact person.
Under the Address tab:	
Street Address	Street address of this contact person, as well as the county (or borough or parish), fire district, and country where he or she is located.
Mailing Address	Mailing address of this contact person.
Email	Email address of this contact person.
Under the Phones tab:	
Type	Type of phone number (e.g., 24-hour, emergency, work). Pull-down menu in Edit view.
Phone	Phone number.
Under the Notes tab:	
Notes	Keep your own notes about this contact person here.

Resources

Use the Resources module to keep information about companies, people, or organizations that supply resources for emergency response or planning. Examples of resource suppliers you might want to track in the Resources module include media outlets, cleanup contractors, medical clinics and hospitals, heavy equipment operators, and equipment rental companies.

Adding and editing Resources records. To add a new Resources record,

1. Open the Resources module.
2. Choose New Resource from the Record menu. A new, blank record will be created.
3. Fill out the new Resources record. Refer to Table 3 on page 166 for explanations of all the items.
4. Click Save Changes to save the new record.

To add a phone number to a Resources record,

1. Open the record in Record View.
2. Click the Supplier Phones tab, then click the Edit button in the toolbar.
3. Click within the first blank table row below the “Type” heading. In the menu of phone number types, click to select a type (e.g., “24-hour,” “emergency”). If you need to add or modify a type, select Edit from the menu.
4. Type the phone number to the right of the menu in the same table row, then click Save Changes.

To edit a Resources record, click the Edit button in the toolbar (see “Editing records” on page 29).

Adding contact information for resource suppliers. To add a record for a contact person for a resource,

1. Open the Resources record in Record View.
2. Click the Contacts tab, then click the Edit button in the Toolbar.

3. Click Add Contact. You'll see a list of all contacts in the Contacts module.
4. Either
   - Click on the name of a contact already in the list, then click Select. You would do this if a person representing the resource is already in your Contacts module (perhaps because they are a contact for more than one resource).

     Note: You can associate the same contact record with more than one resource by repeating steps 1 through 4 for each resource for which this person is a contact.
   - Click Add New to add a new Contacts record. You would do this if the contact is not already in the list. You'll see a new, blank Contacts record. Fill in the information about the new contact (refer to Table 2 on page 164 for the definitions of the items on a Contacts record), then click Save Changes.

     Note: A new Contacts record that you create by clicking New Contact from a Resources record will be associated with that Resources record, even if you don't type the name of the resource, or other identifying information about the resource, on the contact record.

TABLE 3. Items in Resources records.

Item	Description
Supplier Name	Name of the company, person, or organization that can supply response resources.
Type	Brief description of the supplier (e.g., "911 Center" or "Bomb Disposal"). Editable pull-down menu.
Under the Address tab:	
Street Address	Street address of this supplier, as well as the county (or borough or parish), fire district, and country where it's located.
Mailing Address	Mailing address for this supplier.
Email	Email address for this supplier.

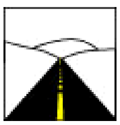
TABLE 3. Items in Resources records. (Continued)

Item	Description
Under the Supplier Phones tab:	
Type	Type of phone number (e.g., 24-hour, emergency, work). Pull-down menu in Edit view.
Phone	Phone number.
Under the Items tab:	
ID	Model number or other ID number for an item supplied by this resource.
Item	Name or short description of the item supplied.
Amount	Number or quantity of items available (e.g., "4" for number of respirators, or "30" for gallons of a chemical neutralizer).
Under the Contacts tab: Double-click on any contact to see the record for that contact.	
First/Last Name	Name(s) of this contact person.
Title	Job title or position of this contact person.
Organization	Organization with which this contact person is affiliated.
Under the Map Data tab:	
Latitude/Longitude	Latitude and longitude of the location of the resource.
Method for obtaining latitude and longitude	Code and description of the method by which latitude and longitude were measured. Pull-down menu in Edit view.
Description of location identified by latitude and longitude	Code and description of the location for which latitude and longitude were measured.
Record is linked to MARPLOT object	This box is checked if this record is linked to an object on a MARPLOT map (see "Linking map objects to CAMEO records" on page 183).

TABLE 3. Items in Resources records. (Continued)

Item	Description
Under the Notes tab:	
Notes	Keep your own notes about this resource supplier here.

Routes



Use the Routes module to maintain information about routes, such as railroads or highways, used to transport hazardous materials. Route types can include air, water, or land routes. You can link records in this module to routes depicted on a map in MARPLOT.

Adding and editing Routes records. To add a new route record,

1. Open the Routes module.
2. Choose New Route from the Record menu. A new, blank record will be created.
3. Fill out the new route record. Refer to Table 4 on page 169 for explanations of all the items.
4. Click Save Changes to save the new record.

To edit a route record, open that record, then click the Edit button in the toolbar (see “Editing records” on page 29).

Mapping a route. To link any Routes record to a line object on a MARPLOT map representing that route, follow the procedure described in “Linking transportation routes to CAMEO records” on page 185.

Keeping track of chemicals transported along a route. You can add Chemicals in Inventory records for a route record. You would do this if you need to track hazardous materials that are regularly transported along the route (such as regular shipments of a particular hazardous material from a facility located along the route).To create a Chemicals in Inventory record associated with the record for a particular route,

1. In the Routes module, open the route record in Record View.
2. Turn to “Manually creating a Chemicals in Inventory record” on page 123. Beginning at step 2 in that section, follow the procedure to create the new Chemicals in Inventory record.

Investigating hazards along a route. Once you have created a Chemicals in Inventory record for a hazardous material shipped along a particular route, you then can use the Screening & Scenarios module to investigate potential hazards posed by an accidental release of that substance. Follow the instructions in “Using Screening & Scenarios to assess hazards” on page 137.

Tracking incidents on a route. Use the Incidents module to record incidents, such as accidental spills and releases, that have occurred along a particular route. To create a record in the Incidents module that’s associated with a particular route, follow the steps in “Adding and editing Incidents records” on page 171.

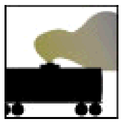
TABLE 4. Items in the Routes module.

Item	Description
Route Name	Name of this route.
Route Type	County road, railroad, river, canal, or other type. Pull-down menu in Edit view.
Types of Vehicles	Types of vehicles common on this route or used to transport hazardous materials along this route.
Evacuation	Check if this is a designated route for evacuation during chemical emergencies.
Snow	Check if this is a designated snow emergency route.
School	Check if this is a designated route for school-related transportation.
HAZMAT	Check if this is a designated route for vehicles carrying hazardous materials (HAZMAT).
Mass Transit	Check if this is a designated mass transit route (e.g., a bus route).

TABLE 4. Items in the Routes module. (Continued)

Item	Description
Start/End Point	Starting and ending points of the route or route segment of concern.
County	County or other political unit through which the route passes.
Fire District	Fire district through which the route passes.
Vehicles Per Day	Average number of vehicles traveling the route each day.
Route plotted in MARPLOT	This box is automatically checked if this record is linked to a line object on a MARPLOT map (see "Linking map objects to CAMEO records" on page 183). Not editable.
Under the Intersections tab:	
Order	Use this box to keep track of the order of the intersections along a route (e.g., assign the order number "1" to the first intersection in a sequence, "2" to the second intersection, and so on).
Intersection	An intersection name or milepost number identifying a specific location on a highway that is of particular concern — either because of congestion and accident risks, or because of high volumes of hazardous materials moving through the area.
Under the Chemical Inventory tab:	
CAS	CAS number of the chemical transported along the route.
Chemical Name	Name of the transported chemical.
RIDS	Click this button to see the RIDS record for the chemical shown on this record. If you do not see a RIDS record, see "Manually creating a Chemicals in Inventory record" on page 123.
Under the Notes tab:	
Notes	Keep your own notes about this route here.

Incidents



You can use the Incidents module to keep track of releases of chemicals at facilities described in the Facilities records or along transport routes described in Routes records. You can link Incidents records to symbols marking release locations on maps in MARPLOT.

The Incidents module contains data fields (boxes) for information that, under Section 304 of EPCRA, facility operators must report for accidental releases of

- “Extremely Hazardous Substances” (also known as EHS chemicals, and defined in EPCRA).
- “Hazardous Substances” (also known as CERCLA chemicals, and defined in CERCLA).

For more details about these reporting requirements, see “Section 304: emergency notification” on page 270.

Also included on Incidents records are some of the data fields recommended for use in reporting incidents by the National Fire Information Council (NFIC) and the Emergency Response Notification System (ERNS).

A source of historical incident data. You can find information about past incidents at facilities in your area, which you can include on Incidents records, by querying the National Response Center’s incident database at www.nrc.uscg.mil (click Query Data).

Adding and editing Incidents records. When you create a new Incidents record, you can choose to associate it with a particular facility or route where the incident occurred. To create a new record for an incident,

1. Skip to step 2 if you do not plan to associate the new record with a facility or route. Otherwise—if you haven’t already done so—create either a Facilities record describing the facility or a Routes record describing the route where the incident occurred.
2. Open the Incidents module and choose New Incident from the Record menu.

3. When asked whether you'd like to associate the new record with a route or facility, click Route to associate it with a route, or Facility to associate it with a facility. If you don't want to associate the new record with a facility or route, click Neither and skip to step 5 (note that you can't later associate the record with a facility or route record).
4. In the list of routes or facilities, click on the name of a route or facility, then click Select. A new Incidents record will be created for this route or facility.
5. Fill out the new Incidents record (check Table 5 on page 173 for explanations of all the items), then click Save Changes to save the record.

To edit an Incidents record, click the Edit button in the toolbar (see "Editing records" on page 29).

Adding Reporter/Discharger contact information. You can create records in the Contacts module that contain contact information for incident reporters or dischargers who are associated with incidents. When you add a contact for an incident, you're actually adding a new record to the Contacts module, but information about that contact will also be displayed in the Reporter/Discharger section under the Notification tab in the record for that incident.

To add a record for a reporter or discharger associated with a particular incident,

1. Open the incident record in Record View.
2. Click the Notification tab, then click the Edit button in the toolbar.
3. Click Add Contact.

   You'll then see a list of all contacts currently in the Contacts module.
4. Either
   - Click on the name of a contact already in the list, then click Select. You would do this if the reporter or discharger is already in your Contacts module (perhaps because they are associated with more than one incident).

Note: You can associate the same contact record with more than one incident by repeating steps 1 through 4 for each of the incidents for which this person is a contact.

- Click Add New to add a new Contacts record. You would do this if the reporter/discharger is not already in the list. You'll see a new, blank contacts record. Fill in the record (refer to Table 2 on page 164 for explanations of all the items), then click Save Changes.

  Note: A new Contacts record that you create by clicking New Contact from an Incidents record will be associated with that Incidents record, even if you don't type the name of the incident or other identifying information about the incident on the contact record.

Mapping an incident. You can link any Incident record to a symbol on a MARPLOT map representing the location of that incident. To make a link, follow the procedure described in "Linking map objects to CAMEO records" on page 183.

TABLE 5. Items on an Incidents record.

Item	Description
Name of facility or route	Name of facility or route where the incident took place. If this record is not associated with a facility or route, this box is blank. Not editable.
Route type or facility department	Type of route or department/division of facility where the incident took place. If this record is not associated with a facility or route, this box is blank. Not editable.
Incident	Name of the incident.
Under the Location/Date tab:	
Location	Description of the location of an incident, including the county and fire district, route or waterway, and milepost where the incident occurred.
Date/Time Spilled	Date and time when the incident happened.
Date/Time Discovered	Date and time when the incident was discovered.

TABLE 5. Items on an Incidents record. (Continued)

Item	Description
Date/Time Reported	Date and time when the incident was reported to the authorities.
Under the Source tab:	
Source checkboxes	Click the checkbox for any of the 11 source categories to indicate the source(s) of the spill.
Vehicle ID	Identification or license number, if a vehicle was the source of the spill.
# of Tanks	Number of tanks involved in the release.
Tank Capacity/ Units	Capacity, in weight or volume, of each tank, and a pull-down menu of capacity units.
Material Type	Click any of the four checkboxes to indicate the type of material that has been released.
Chemical	The name of the spilled chemical. If a mixture spilled, use a separate line to describe each hazardous component of the mixture.
Quantity/Units	The amount of the chemical that was released into the environment, and a pull-down menu of amount units.
Qty in Water/Units	The amount of the chemical that was released into water, and a pull-down menu of amount units.
Under the Cause tab:	
Medium	Click any of the eight checkboxes to indicate the medium or media into which the chemical was released.
Cause	Click any of the seven checkboxes to indicate the cause(s) of the incident.
Cause Description	Short description of the cause(s) of the incident.
Action Taken	Short description of the initial action taken to respond to the incident.

TABLE 5. Items on an Incidents record. (Continued)

Item	Description
Under the Notification tab:	
Notified	Click any of the six checkboxes to indicate the agencies notified and the means of notification used. Click Multiple Reports if more than one agency was notified.
Agency Notified	If you clicked the Other checkbox (under the Notified heading), type the name of the agency notified about this incident.
Reporter/Dis-charger	Names and titles of the people who either reported this incident or are responsible for the discharge. Double-click on a contact name or title to see the full Contacts record for that person.
Confidentiality	Click this checkbox if the reporter information in this record or in the associated Contacts record is confidential.
Through NRC	Click this checkbox if this incident was reported to the National Response Center
Location/Report	Click this checkbox if a known location was reported.
SSI Report	Click this checkbox if a report on a statistically significant increase (SSI) in a continuous release has been filed.
Incident/Discharge	Click this checkbox if this is a single incident or discharge rather than a continuous release.
Case ID/Regional Case ID	Case ID number assigned to this incident by the regional EPA or U.S. Coast Guard office.
Case ID/NRC	Case ID number assigned to this incident by the National Response Center.
Case ID/Dis-charger	Case ID number assigned to this incident by the discharger.
Case ID/CR	Case ID number assigned to this incident by the EPA, if this is a continuous release.
Under the Response & Evaluation tab:	
Response Agency/ Type	List of the agencies involved in the response to this incident, and the type of each agency.

TABLE 5. Items on an Incidents record. (Continued)

Item	Description
Evacuation Required	Click this checkbox if people were evacuated in response to this incident.
Followup Required	Click this checkbox if a report describing this spill is required to be submitted by the discharger to the U.S. Department of Transportation, EPA, or the Chemical Safety Board.
Followup Received	Click this checkbox if a followup report describing this incident has been submitted by the discharger to the U.S. Department of Transportation, EPA, or the Chemical Safety Board.
Response & Evaluation	Brief description of the response to this incident, and the evaluation of the incident.
Injuries	Number of people injured by this incident.
Deaths	Number of people killed by this incident.
Property Damage > $50,000	Click this checkbox if the incident caused more than $50,000 in property damages.
Under the Map Data tab:	
Latitude/Longitude	Latitude and longitude of the incident location.
Method for determining latitude and longitude	Code and description of the method by which latitude and longitude were measured. Pull-down menu in Edit view.
Description of location identified by latitude and longitude	Code and description of the location for which latitude and longitude were measured.
Record is linked to MARPLOT object	This box is checked if this record is linked to an object on a MARPLOT map (see "Linking map objects to CAMEO records" on page 183).
Under the Notes tab:	
Notes	Keep your own notes about this incident in this space.

Using MARPLOT with CAMEO

You use MARPLOT, the electronic mapping program, whenever you use a map with CAMEO. You use a map when you link the CAMEO record for a chemical facility, location of a hazardous chemical incident, special population, or transportation route to its symbol on a map in MARPLOT, and whenever you plot a Screening & Scenarios threat zone. You also use MARPLOT and ALOHA together when you plot an ALOHA footprint on a map.

MARPLOT was primarily designed to display maps of U.S. counties generated from TIGER/Line files developed by the Bureau of the Census (download MARPLOT maps from www.epa.gov/ceppo/cameo/marmaps/ or learn more about TIGER/Line files at www.census.gov/geo/www/tiger/). This manual explains the procedures for using CAMEO and MARPLOT together for some basic projects, but doesn't provide detailed explanations of TIGER/Line files, and doesn't fully explain how to use MARPLOT. You'll find all that information in the MARPLOT user's manual (download it from www.epa.gov/ceppo/cameo/marplot.htm).

A point of potential confusion is that, although MARPLOT is the mapping component of CAMEO, MARPLOT and CAMEO's collection of modules are actually two separate programs communicating with each other. For the two programs to share information, they must both be running on your computer at the same time. Whenever you do something in a CAMEO module that requires communication with MARPLOT, or vice versa, if one of the two programs isn't yet running, the other will automatically start it.

The CAMEO Map

The CAMEO Map is a special MARPLOT map that you use as an overlay on other maps, such as the sample map of Prince William County that is included with your copy of MARPLOT. Use the CAMEO Map, not maps like the Prince William County map, as the location for all CAMEO-related map objects that you create (such as symbols marking the locations of facilities and special locations).

The CAMEO Map comes with CAMEO and is automatically installed when you install CAMEO. It is itself invisible, but on it, you can include layers on which you can place different kinds of visible, CAMEO-related map objects, such as symbols for facilities and special locations.

To check whether the CAMEO Map is installed in your copy of MARPLOT, open MARPLOT and choose Map List from the List menu. If the CAMEO Map is installed, you'll see it in the list of maps in use. You also can select Layer List from the List menu to see the various layers that are used in the CAMEO Map (as in Figure 1 on page 178), along with map layers of other maps in view. The names of layers used on the CAMEO Map start with the word "CAMEO"—e.g., "CAMEO Facilities," "CAMEO Hospitals," and "CAMEO Schools."

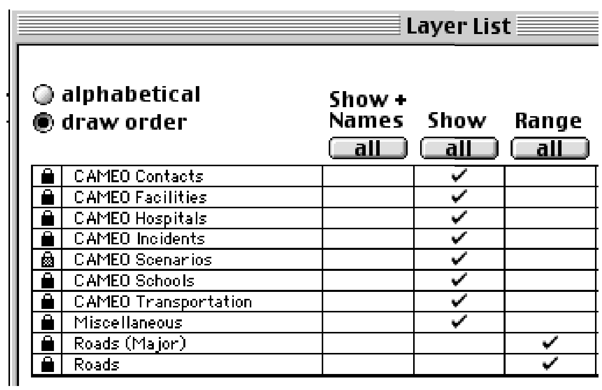


FIGURE 1. The seven standard layers used in the CAMEO Map appear at the top of this list of MARPLOT map layers.

You can add a new layer to the CAMEO map, as follows:

1. Choose Layer List from MARPLOT's List menu, then click New.
2. Type a name for the layer that starts with "CAMEO" (e.g., "CAMEO Community Centers").
3. Check that the create layer button is selected, then click OK.

Map objects and links

You can place **map objects** on layers of the CAMEO Map and then link them to CAMEO records, as explained below. A link is a two-way connection between a particular map object and a related CAMEO record (an example is shown in Figure 2 on page 179). Once you link a record to an object, you can use the link to quickly move back and forth between a map in MARPLOT and record(s) in CAMEO in the following ways:

- If you're working with one or more records for locations or routes that are linked to map object(s), you can view those locations or routes on a map.
- If you're working with a map in MARPLOT and have selected one or more object(s) on it, you can see the records linked to those objects.

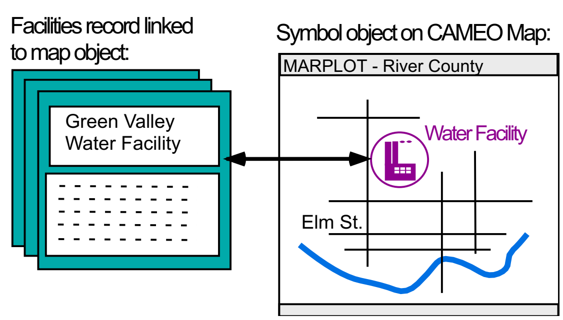


FIGURE 2. The link between a record in the Facilities module and an object on the CAMEO Map is represented by an arrow in this diagram.

Two types of map objects are most commonly linked to CAMEO records (Figure 3 on page 180):

- **symbol objects** that mark the locations of facilities (such as chemical processing plants), special locations (such as schools or hospitals), response/planning resources (such as equipment stockpiles), and past incidents.

- **polyline objects** that represent routes (along roads, rivers, railroads, or combinations of these) used to transport hazardous substances.

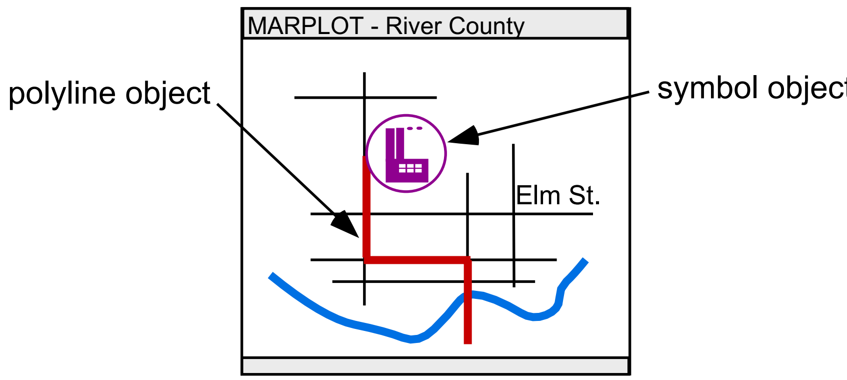


FIGURE 3. Polyline and symbol objects on a map.

You also can create polygon objects on maps to represent very large facilities, and link those objects to facility records. Check the MARPLOT user's manual for more details about symbol, polyline, and polygon objects.

CAMEO modules and linking. In terms of linking to MARPLOT map objects, there are three kinds of CAMEO modules (Table 6):

1. Records in the Facilities, Special Locations, Routes, Incidents, and Resources modules can be linked directly to map objects.
2. Records in the Chemical Library, Contacts, and Chemicals in Inventory modules can't be linked to map objects.
3. Screening & Scenarios records can't be linked directly to map objects. But you can plot threat zones on maps from any Screening & Scenarios records that you have indirectly linked to map objects by creating a linked Facilities or Routes record, a Chemicals in Inventory record, and

a Screening & Scenarios record, following the steps in "Plotting a threat zone on a map" on page 148.

Table 6: Linkability of CAMEO modules.

	1. Can be linked.	2. Can't be linked.	3. Can be indirectly linked.
Chemical Library		√	
Facilities	√		
Chemicals in Inventory		√	
Routes	√		
Special Locations	√		
Contacts		√	
Resources	√		
Incidents	√		
Screening & Scenarios			√

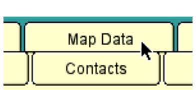
Using links

You use links to move back and forth between CAMEO and MARPLOT, as follows.

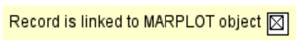
Checking whether a record is linked. To tell whether a CAMEO record is linked to a map object, either

- With the record selected or in Record view, from CAMEO's Sharing menu, select MARPLOT, then Show on Map (you'll be alerted if the record is not linked).

or

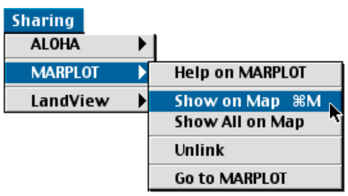


1. Open the record in Record view.
2. Click the Map Data tab (as at left). There is no Map Data tab in the Routes module.



The “Record is linked to MARPLOT object” box is checked if the record is linked to a map object (as at left). Records in modules that can’t be linked to map objects don’t contain this checkbox.

When you start from CAMEO... If you’re viewing a record for a facility, special location, incident, resource, or route, to see that location or route on a map,



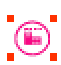
- From CAMEO’s Sharing menu, select MARPLOT, then Show on Map (as at left). MARPLOT will come forward, and the map object linked to the record will be displayed. You’ll be alerted if the record is not linked to a map object; follow the steps in “Linking map objects to CAMEO records” on page 183 if you’d like to create a map object and link.)

If you’re working with a Screening & Scenarios record and want to view the threat zone on a map, follow the instructions in “Plotting a threat zone on a map” on page 148.

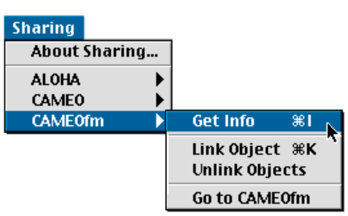
If you have run a search in a CAMEO module and have found multiple records linked to map objects, to see all those objects on the map:

- While that module is open, from CAMEO’s Sharing menu, select MARPLOT, then Show All on Map. MARPLOT will come forward, and all the objects will be displayed (they also will be selected).

When you start from MARPLOT... While you’re working with a MARPLOT map, to see the record linked to a map object,



1. Click on the map object to select it. When an object is selected, four small squares surround it (like the squares around the facility symbol at left).



2. From MARPLOT’s Sharing menu, select CAMEOfm, then Get Info (as at left). CAMEO will come forward, and will display the linked record.

Note: If a previous version of CAMEO is installed on your computer, you will see both “CAMEO” and “CAMEOfm” in MARPLOT’s Sharing menu. Always select from the CAMEOfm commands when you’re working with the current version of CAMEO (“fm” stands for the FileMaker database program in which this version was developed). Select from the CAMEO commands only when you want to work with the previous version of CAMEO.[2]

While you're working with a map, to see multiple records in CAMEO that are linked to multiple objects on the map:

1. Select the linked objects, either by shift-clicking on them or by making a search for them (check the MARPLOT user's manual to learn how to search for map objects).
2. From MARPLOT's Sharing menu, select CAMEOfm, then Get Info.

   CAMEO comes forward and puts the linked records into a found set[3] (just as if you had found the linked records by making a search in CAMEO). Use the navigation buttons in the toolbar to browse through the linked records in the collection.

   Select Show All Records from the Record menu when you're ready to clear the found set and return to normal browsing.

Linking map objects to CAMEO records

You need to run CAMEO and MARPLOT simultaneously in order to establish map links. You can confirm that the programs are communicating correctly with each other in either of two ways:

- In MARPLOT, from the Sharing menu, selecting CAMEOfm, then Go to CAMEOfm (this should transfer you from MARPLOT to CAMEO).
- In CAMEO's Navigator, clicking the MARPLOT button (this should take you from CAMEO to MARPLOT).

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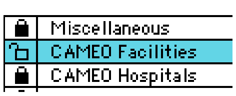
2. If you have uninstalled your previous version of CAMEO from your computer and would like to remove the CAMEO commands from MARPLOT's Sharing menu, open the FRIENDS folder in your MARPLOT folder, and then find and delete the CAMEO.MNUand CAMEO.VWR files.
3. Or more than one found set, if the map objects are linked to records in more than one CAMEO module. In this case, a found set is created in each of the modules; when you select Get Info, you'll be asked which module you would like to view. After viewing the linked records in one module, to pick a different module to view, return to MARPLOT, and choose Get Info again.

To link or not to link. Consider the uses you plan to make of your map and your CAMEO records as you choose whether to link a given CAMEO record to a map object. Don’t create a map object and link unless you know that it will be useful to you to move back and forth between MARPLOT and CAMEO to see the map object representing a CAMEO record and/or vice versa to see the record linked to a map object. You’re likely to find that the advantage of keeping your map uncluttered outweighs the advantage of linking some of your CAMEO records to map objects. On the other hand, other linked map objects can be very handy. For example, see “Checking for special locations within a footprint or threat zone” on page 160.

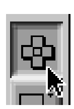
Linking symbol objects to records. To link a symbol object on a MARPLOT map to a record in the Facilities, Special Locations, Incidents, or Resources module,

1. Create and save the record in CAMEO, if you haven’t already.
2. Open your map in MARPLOT so that the location where you’d like to place the symbol is visible.
3. In MARPLOT, from the List menu, select Layer List.

   You’re about to place a new symbol on a map layer. You should place any symbol that you’ll link to a CAMEO record on one of the CAMEO layers (which are on the CAMEO Map). For example, place symbols for facilities on the CAMEO Facilities layer, hospital symbols on the CAMEO Hospitals layer, and so on. You can create new CAMEO layers if needed; check the MARPLOT user’s manual for instructions.

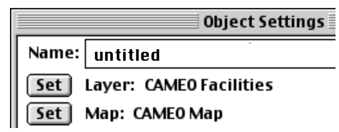


4. Click on the lock icon for the CAMEO layer on which you want to place the symbol. This unlocks the layer (at left, the CAMEO Facilities layer has just been unlocked). Click OK.



5. In MARPLOT’s toolbar, click the symbol tool to select it (as at left).
6. On the map, click on the location where you’d like to place the symbol. The Object Settings dialog box will appear.
7. Check that the new symbol object has been placed on the unlocked CAMEO layer of the CAMEO Map (placement is correct in the example

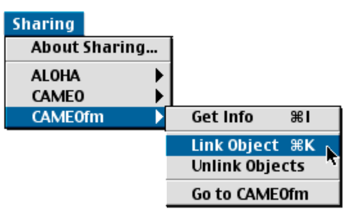
below). If it has been placed on a different layer and/or map, click Set to move the object to the correct layer and/or map.



No need to name the object; it will automatically be given the name of the record you're linking it to.

8. Adjust the symbol's color and other characteristics as you'd like. Click OK.

9. From the List menu, select Layer List, then click again on the lock icon for the CAMEO layer. This relocks the layer so you won't accidentally move or delete the symbol. Click OK.



10. In MARPLOT, find and select the new symbol object (it's selected when four small squares surround it).

11. In the Sharing menu, select CAMEOfm, then Link Object (as at left). CAMEO will come forward.

12. In CAMEO, find and select the record you want to link to the object.

13. From CAMEO's Link menu, select Link this Record (as at left).

To check that the link has been made, click the Map Data tab. If the link was established, the "Record is linked to MARPLOT object" box is checked (and the Link menu will disappear).

Linking transportation routes to CAMEO records. Roads, rail lines, and waterways are represented on MARPLOT maps by polylines, like the polylines on the map shown in Figure 4, which represent neighborhood roads and a creek.

It's likely to seem logical at first to link records in the Routes module directly to polyline objects on the Roads, Railroads, or Water layers of your MARPLOT map. However, there are drawbacks to doing this:

- Only rarely will a transportation route of concern to you correspond to a single Road, Railroad, or Water object in MARPLOT. That's because routes on MARPLOT maps typically include either pieces of several roads, or just part of a railroad or river object.

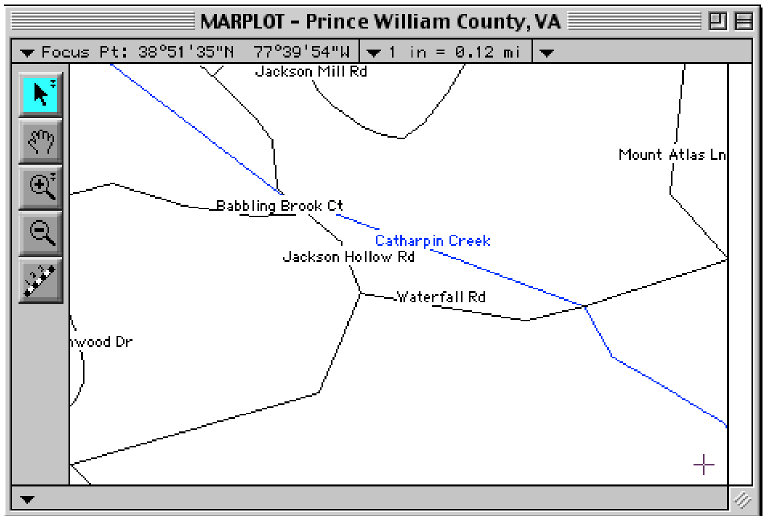


FIGURE 4. On this MARPLOT map, roads are shown as black polylines (Catharpin Creek appears as a blue polyline on a color printout).

- Objects on the Roads, Railroads, and Water layers, which are derived from the nationwide TIGER/Line database, typically exhibit idiosyncrasies, such as missing or misnamed segments.
- For purposes of using maps with CAMEO, it's easiest to always link CAMEO records to objects on the CAMEO Map, because then you'll always know where to find those objects. Other kinds of objects, such as Roads, Railroads, and Water objects, are on particular county maps, not on the CAMEO Map.

To avoid these drawbacks, when you want to link a record in the Routes module to a map object, follow the steps below to create a polyline object on the CAMEO Map that overlays the route of interest. You then link this object to your CAMEO record. Figure 5 shows an example of such a route object.To create a route object in MARPLOT and link it to a Routes record,

1. Open your map in MARPLOT so that the entire route of interest is visible (zoom out if necessary).

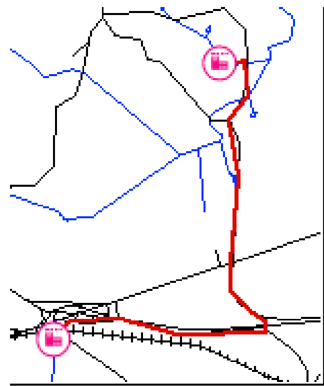
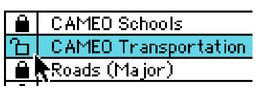
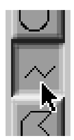


FIGURE 5. This polyline object (in red on color printouts), tracing a hazmat transportation route between two chemical facilities, can be selected and linked to a Routes record.

2. In MARPLOT, from the List menu, select Layer List.



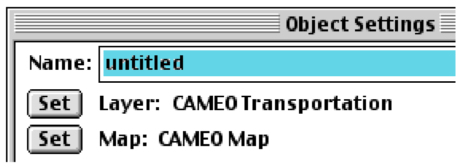
3. Click on the lock icon for the CAMEO Transportation layer, to unlock this layer (as at left), then click OK.
4. In MARPLOT's toolbar, click the polyline tool to select it (as at left).



   You'll use the tool to create a polyline that traces the path of a road, railroad, or waterway that is itself an object on the underlying map. You'll place the polyline on the CAMEO Transportation layer of the CAMEO Map.
5. Click on one endpoint of the route, then trace the route by clicking on each vertex (that is, on each place where the route bends), double-clicking on the final endpoint.

   Once you've double-clicked the final endpoint, the Object Settings dialog box will be displayed.
6. Check that the new route object has been placed on the CAMEO Transportation layer of the CAMEO Map (placement is correct in the example

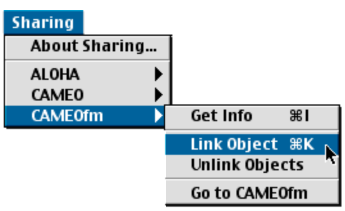
below). If it has not, click Set to move the object to the correct layer or map.



No need to name the object; it will be given the name of the record it's linked to.

7. Adjust the route's line width, color, and other characteristics as you'd like. Click OK.

8. From the List menu, select Layer List, then click again on the lock icon for the CAMEO Transportation layer (to relock this layer so you won't accidentally move or delete the route object). Click OK.



9. From MARPLOT's Sharing menu, select CAMEOfm, then Link Object (as at left). CAMEO will come forward.

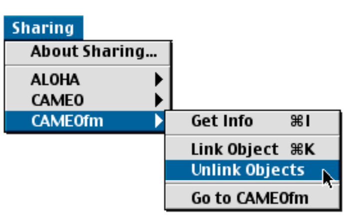
10. Find and select the Routes record that you want to link to your new route object.

11. From CAMEO's Link menu, select Link this Record to make the link.

Deleting a map link

For any of various reasons, you might decide to delete, or "break" a link between a CAMEO record and a map object. For instance, you might discover that you've linked a record to the wrong object. Or you might want to remove an object from your map or a record from a CAMEO module altogether.

To delete a link between a CAMEO record and an object on a map,



1. Open MARPLOT, then find and select the linked object.

2. From MARPLOT's Sharing menu, select CAMEOfm, then Unlink Objects. All the information about the link will be deleted from both MARPLOT and CAMEO.

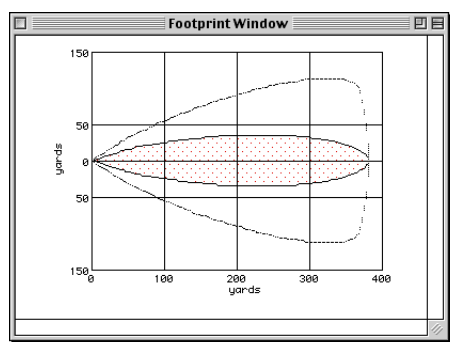
To delete a record linked to an object on a map, select Delete <Module Name> from the Record menu in CAMEO (that is, select “Delete Special Location” in the Special Locations module, “Delete Facility” in the Facilities module, and so on). There’s no need to delete the link before deleting the record; it is automatically deleted when you delete the record. The map object, now unlinked, will remain on the map unless you also delete it.

Screening & Scenarios threat zones are automatically removed from the map when you quit (exit) MARPLOT. To delete a threat zone from your map without quitting (exiting) from MARPLOT, return to the Screening & Scenarios record from which you plotted the threat zone, and select MARPLOT, then Delete Scenario Object from CAMEO’s Sharing menu (or Delete All Scenario Objects to delete multiple threat zones).

Using ALOHA with MARPLOT and CAMEO

You use ALOHA, CAMEO’s air dispersion model, to estimate the potential airborne concentrations of a toxic gas downwind from the location of a chemical release. Once you enter a description of that accidental chemical release into ALOHA, it displays a “footprint” diagram, like the one below, that represents the potential area at risk. Within this area, gas concentrations are predicted to exceed a hazardous level (the level of concern). You can plot ALOHA footprints on maps in MARPLOT.

This manual explains only how you can use ALOHA along with CAMEO and MARPLOT. For a full explanation of how to use ALOHA and a “crash course” in the basics of air dispersion modeling, download the ALOHA user’s manual from www.epa.gov/ceppo/cameo/aloha.htm.



You can use ALOHA on its own, without using CAMEO and MARPLOT along with it. But, like MARPLOT, ALOHA is a component of CAMEO that can communicate both with CAMEO modules and MARPLOT. For ALOHA, MARPLOT, and CAMEO to share information, they must be running on your computer at the same time. Whenever you do something in CAMEO or MARPLOT that requires communication with ALOHA, or vice versa, if one of the two programs isn't yet running, the other will automatically start it (as long as there is enough free memory on your computer).

ALOHA contains a hazardous chemicals database, which includes a subset of the chemicals in CAMEO's Chemical Library. A

Note: Many people wonder about the difference between the footprints that ALOHA plots and the threat zones plotted by the Screening & Scenarios module. For an explanation, see "What are the differences between Screening & Scenarios, ALOHA, and RMP endpoint distances?" on page 152.

What ALOHA, CAMEO, and MARPLOT can accomplish together

Using ALOHA with MARPLOT and/or CAMEO modules makes it possible to accomplish some tasks that you couldn't do otherwise. For example,

- You can create a footprint plot in ALOHA (like the one above), then place the footprint on a map in MARPLOT, so that you can see the area that might be affected by the release.
- You can create Chemicals in Inventory records in CAMEO for chemicals stored in the inventories of local facilities. Later, from any of those records, you can start ALOHA with the chemical selected so that you can plot a footprint for a potential release of that chemical from that facility.

  Tip: To simplify your work with ALOHA, keep notes in your chemical inventory records on storage container dimensions, dike dimensions, storage temperature, and other information you'd need for ALOHA scenarios. You then can refer to those notes next time you need to run ALOHA. To find out just what information you'd need, either check the ALOHA manual or just experiment with ALOHA.

An ALOHA modeling example. Imagine that a local facility in your area stores a chemical such as chlorine or ammonia, which would pose a serious toxic gas hazard if accidentally released. For an emergency planning project, you might want to investigate the possible hazard to your community from a potential release of that chemical at the facility. Here's how you could use the three CAMEO components to accomplish this planning task:

1. Create a Facilities record describing that facility, and link it to a symbol object representing the facility on a MARPLOT map of your community. Also create a Chemical Inventory record describing the hazardous chemical at that facility. (Follow the procedures in "Working with Facility Records" on page 105, to create these records and link.)
2. Create Special Locations records for each of the locations in your community, such as schools, hospitals, and community centers, that would need special attention in the event of a toxic gas release. Link each of those records to symbols representing those special locations on your MARPLOT map. (Follow the procedures in "Special Locations" on page 155 to create these records and links.)
3. Open the Chemical Inventory record, then, from the Sharing menu, select ALOHA, then Select this Chemical in ALOHA. This starts ALOHA with the chemical selected.
4. Run a release scenario for this chemical in ALOHA and plot a footprint in ALOHA. (Refer to your ALOHA manual to learn how to do this.) The footprint represents the area where the toxic gas might pose a hazard to people, given the circumstances in your release scenario.
5. In MARPLOT, find the location of the release on the map of your community, click on that location with the arrow tool, then, from the Sharing menu, select ALOHA, then Set Source Point. The footprint will be drawn on the map.
6. Search within the footprint for the symbols for special locations, such as schools and hospitals. Use the map links to quickly collect together all Special Locations records linked to those symbols. During a real incident, you could quickly make and print out a list of contact phone numbers for those locations (for detailed instructions, see "Checking for special locations within a footprint or threat zone" on page 160).